

## SFP 2002: MONITORING SPINY LOBSTER IN FKNMS PROTECTED ZONES

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The importance of the Caribbean spiny lobster, *Panulirus argus*, both to the marine ecosystem of the Florida Keys and its economy is undeniable. For the past five years, we have monitored the spiny lobster populations at selected Marine Protected Areas (MPAs) within Florida Keys National Marine Sanctuary (FKNMS) to provide baseline data to assess their potential to function as fishery reserves for this valuable species. Our results indicate that, overall, SPAs and Research Reserves do not provide refuge from fishing pressure for *P. argus*, but that Western Sambo Ecological Reserve is indeed functioning to some extent in this capacity. Yet, the monitoring completed thus far is insufficient to assess how well the Ecological Reserve will ultimately function in this capacity. The extent to which lobsters emigrate from the Reserve and enhance the fishery remains undocumented, and little is known about how broader ecosystem dynamics will ultimately affect *P. argus* abundance and population structure within the Ecological Reserve in the absence of fishing pressure. This proposal details our approach to address these issues. Specifically, we propose:

- 1) To determine to what extent Western Sambo Ecological Reserve functions as a fishery reserve for *Panulirus argus* by comparing changes in lobster abundance and size structure within the Ecological Reserve over time to those dwelling at an adjacent, exploited reference area.
- 2) To quantitatively determine the relative immigration and emigration of lobsters to and from Western Sambo Ecological Reserve to assess the potential of the Ecological Reserve to export lobster biomass to the fishery (i.e., “spillover”).